

QUARTERLY GROUNDWATER MONITORING AND
SAMPLING REPORT FOR THE
POWERINE REFINERY

June 1988

PREPARED FOR

Powerine Oil Company
P.O. Box 2108
Santa Fe Springs, California 90670

By

ERT, Inc.
19782 MacArthur Boulevard, Suite 365
Irvine, California 92715

ERT[®]

An ENSR Company

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TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 GROUNDWATER MONITORING AND SAMPLING	4
2.1 Water-Level Monitoring	4
2.2 Groundwater Sampling	7
3.0 LABORATORY ANALYSIS	11
3.1 EPA Test Method 601	11
3.2 EPA Test Method 624	11
4.0 ANALYTICAL RESULTS	13
5.0 CONCLUSIONS	22
6.0 REFERENCES	24

APPENDIX A - CHAIN OF CUSTODY DOCUMENTS

APPENDIX B - LABORATORY REPORTS

LIST OF TABLES

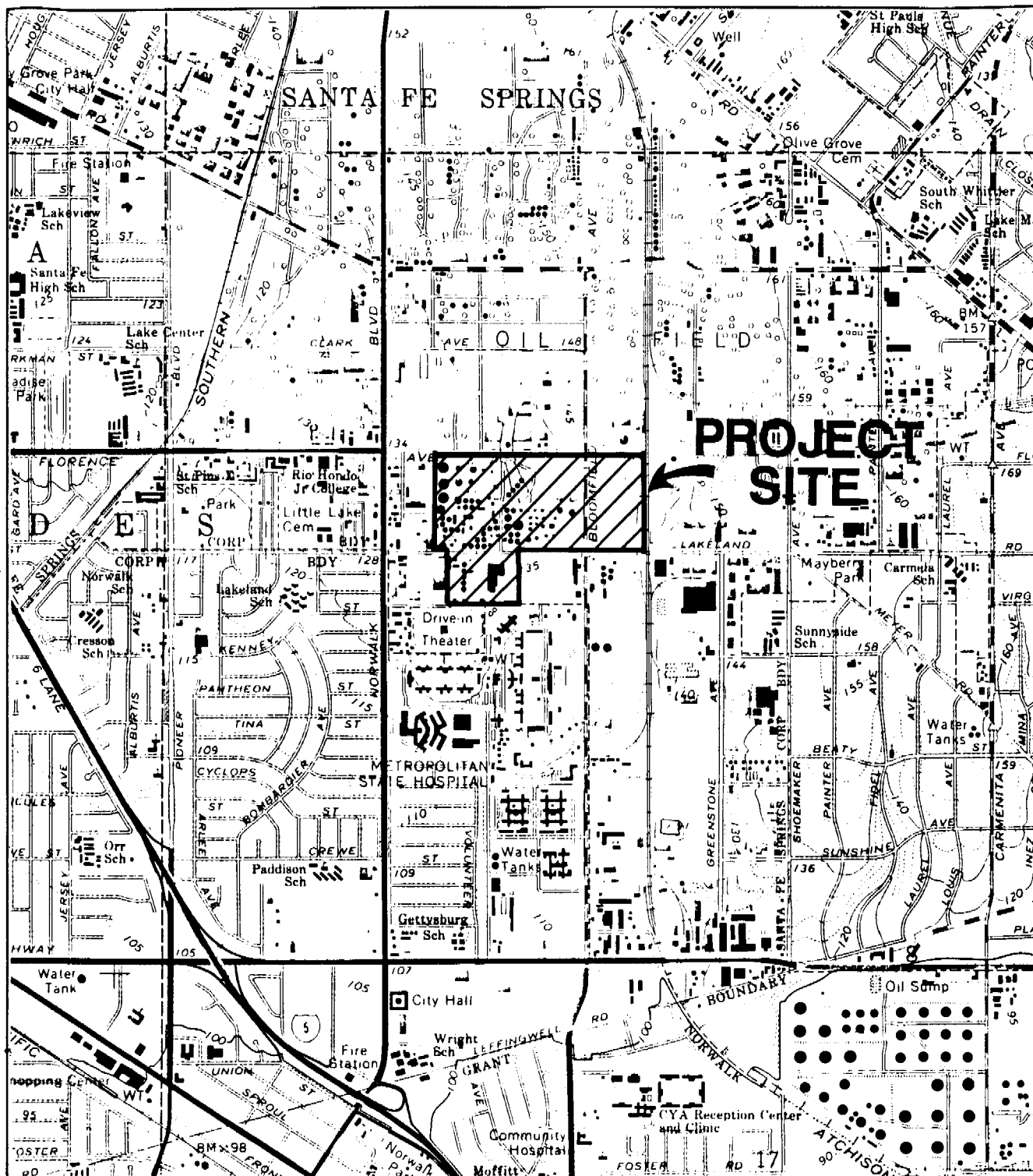
<u>TABLE NUMBER</u>	<u>TITLE</u>	
1	SUMMARY OF WATER-LEVEL MONITORING DATA	5
2	SUMMARY OF GROUNDWATER SAMPLING DATA	9
3	SUMMARY OF ANALYTICAL TEST RESULTS- VOLATILE ORGANIC COMPOUNDS	14
4	SUMMARY OF ANALYTICAL TEST RESULTS- PURGEABLE HALOCARBON COMPOUNDS	19
5	SUMMARY OF ACETONE CONCENTRATIONS	21

LIST OF FIGURES

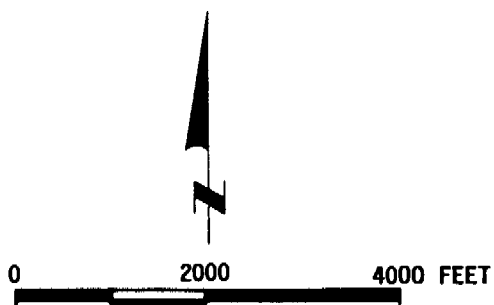
<u>FIGURE NUMBER</u>	<u>TITLE</u>	
1	PROJECT SITE LOCATION MAP	2
2	SITE PLOT PLAN	3
3	GROUNDWATER CONTOUR MAP	6

1.0 INTRODUCTION

ERT, Inc. measured water levels in thirteen (13) monitoring wells on June 6, 1988 and collected water samples from ten (10) monitoring wells between June 6 and June 8, 1988 at the Powerine Oil Company refinery located at 12354 Lakeland Road, Santa Fe Springs, California (Figures 1 and 2). The samples were analyzed to evaluate the concentrations of purgeable halocarbon and purgeable volatile organic compounds. This work was performed to comply with the requirements of the Regional Water Quality Control Board, Los Angeles Region (RWQCB) for quarterly monitoring, sampling, and analytical testing of perched groundwater beneath the refinery. This report summarizes the field procedures, laboratory analyses, and analytical results for the second quarter of 1988.



BASE MAP FROM U.S.G.S. 7½ MINUTE SERIES (TOPOGRAPHIC), WHITTIER QUADRANGLE



ERT

A RESOURCE ENGINEERING COMPANY

FIGURE 1
PROJECT SITE LOCATION MAP

DRAWN BY:

DATE:

PROJECT NO.:

CHK'D BY: *RO*

REVISED:

DWG. NO.:

FX-9 Wells

2.0 GROUNDWATER MONITORING AND SAMPLING

2.1 Water-Level Monitoring

Water-level monitoring was performed on June 6, 1988 using a Solinst water level meter in wells containing water only, and a stainless steel tape, water gauging paste, and gasoline gauging paste in wells containing free product (MW-501, MW-504). Monitoring equipment was decontaminated following each measurement. The decontamination procedure consisted of a tap water rinse, a thorough scrubbing using a non-phosphatic detergent in tap water, a second tap water rinse, and a final rinse using distilled water obtained from a State-certified analytical laboratory.

Groundwater monitoring results are summarized in Table 1 and are illustrated on the groundwater contour map in Figure 3. Groundwater elevations ranged from 37.19 feet above MSL in MW-502 to 53.65 feet above MSL in MW-104. The water table gradient slopes southwesterly across the site.

Monitoring well MW-202 was again observed to be dry. Monitoring well MW-504 contained 1.8 feet of free product and, significantly, MW-501 contained 1.3 feet of free product on the upper surface of the perched aquifer. Therefore, water samples were not extracted from these monitoring wells. The depth to groundwater was not measured in monitoring well MW-102 because the well was reportedly destroyed sometime prior to July, 1987.

TABLE 1
SUMMARY OF WATER-LEVEL MONITORING DATA

MW* No.	Date	Elevation Top of Casing (feet,MSL)	Depth to Water (feet)	Water Level Elevations (feet,MSL)	Free Product (feet)
101	06/06/88	134.98	88.66	46.32	ND
102	06/06/88	134.81	a	a	a
103	06/06/88	136.95	93.36	43.59	ND
104	06/06/88	141.60	87.95	53.65	ND
201	06/06/88	132.91	90.05	42.86	ND
202	06/06/88	137.89	b	b	ND
203	06/06/88	143.89	95.98	47.91	ND
204	06/06/88	140.14	94.95	45.19	ND
205	06/06/88	138.17	90.15	48.02	ND
206	06/06/88	129.93	92.37	37.56	ND
501	06/06/88	128.70	92.46	36.24 (37.21) ^c	1.3 (ND) ^d
502	06/06/88	131.19	94.00	37.19	ND
503	06/06/88	131.43	92.55	38.88	ND
504	06/06/88	133.83	92.56	41.27 (42.64) ^c	1.83 (1.83) ^d

KEY

ND = Not Detected

a = Destroyed

b = Dry Well

c = Corrected water level elevation ((Water Level
(corrected) = Water Level (monitored) + (0.75) (Product
Thickness))

d = Thickness of free product, previous quarter

* = Monitoring Well

FX-9 Wells

2.2 GROUNDWATER SAMPLING

Ten (10) monitoring wells were sampled between June 6 and 8, 1988. Sampling began with monitoring wells MW-101 and MW-103, which were purged with a hand bailer because the water volume in these wells was insufficient to use an electrical submersible pump. The remaining monitoring wells were sampled starting with monitoring well MW-205, which contained water with the lowest reported concentrations of hydrocarbon compounds, and proceeded sequentially to wells with progressively higher reported concentrations. This sampling sequence was followed in order to minimize the potential for cross contamination between wells. The production well (P-6 on Figure 2) was not sampled since its associated holding tank was being repaired during the time of monitoring and sampling.

Before a sample was extracted, each well was purged of approximately four (4) well volumes of water using either a 1/3-horsepower Grundfos submersible pump, or a Teflon hand bailer. Upon removal of four (4) well volumes, the water's pH, temperature, and conductivity were measured and recorded. Purged water was discharged into 55-gallon drums to be later disposed of by refinery personnel.

After purging, water samples were extracted from the monitoring wells using a decontaminated Teflon bailer. Samples were placed into two (2) 40-milliliter VOA vials. The VOA vials are clear and pretreated with HCl, which inhibits the biodegradation of volatile aromatic compounds. All samples were properly labeled and immediately placed on ice in a portable cooler. In addition, two (2) sample blanks consisting of distilled water obtained from a State-certified laboratory were collected (MW-001, MW-002). These samples blanks were extracted from the same Teflon bailer used to sample the monitoring wells. Monitoring well MW-501 and MW-504 contained free product and, therefore, were not sampled.

All equipment used to purge and sample the monitoring wells was decontaminated after each well was sampled. The decontamination procedure consisted of a tap water rinse, a thorough scrubbing in tap water and non-phosphatic detergent, a second tap water rinse, and a final rinse using distilled water.

A summary of the data recorded while sampling the monitoring wells is presented in Table 2. Conductivity values ranged from 1,850 umhos/cm in MW-503 to 4,800 umhos/cm in MW-104 and, in general, demonstrated decreasing values across the site from the northeast to the southwest. The measurements of water pH ranged from 5.2 in MW-503 to 7.4 in MW-101.

TABLE 2
SUMMARY OF GROUNDWATER SAMPLING DATA

<u>MW*</u> <u>No.</u>	<u>Time</u>	<u>Purge</u> <u>Method</u>	<u>Volume</u> <u>Purged</u> <u>(gals.)</u>	<u>Temp.</u> <u>(°C)</u>	<u>pH</u>	<u>Electrical</u> <u>Conductivity</u> <u>(umhos/cm)</u>	<u>Water</u> <u>Turb.</u>
101	06/06/88 (14:05)	HB	0.75	20	7.4	2440	gray, v. cloudy
103	06/06/88 (16:00)	HB	5.25	24	7.2	3120	gray, sl. cloudy
104	06/07/88 (12:30)	SP	20	22	5.8	4800	clear to sl. cloudy
201	06/07/88 (16:55)	SP	25	22	5.8	2180	clear to sl. cloudy
202	a	a	a	a	a	a	a
203	06/07/88 (15:55)	SP	25	21	6.8	3150	clear to sl. cloudy
204	06/07/88 (14:45)	SP	20	24	5.6	2200	sl. cloudy
205	06/07/88 (11:15)	SP	20	26	5.8	2050	gray to sl. cloudy
206	06/08/88 (11:05)	SP	25-30	22	6.7	2170	sl. cloudy
501	b	b	b	b	b	b	b

Table 2 (continued)

Summary of Groundwater Sampling Data

MW* No.	Time	Purge Method	Volume Purged (gals.)	Temp. (°C)	pH	Electrical Conductivity (umhos/cm)	Water Turb.
502	06/08/88 (9:55)	SP	40	22	6.4	2570	clear to sl. cloudy
503	06/08/88 (17:55)	SP	40	22	5.2	1850	clear
504	b	b	b	b	b	b	b

KEY

* = Monitoring well
 a = Insufficient water in well
 b = Not sampled due to presence of free product in well
 HB = Hand bailer
 SP = Submersible pump
 sl. = Slightly
 v = Very
 Turb= Turbidity

3.0 LABORATORY ANALYSIS

All samples were submitted to Chemical Research Laboratories, Inc., a California-certified analytical laboratory, for analysis using EPA Test Methods 601 and 624. Standard chain-of-custody procedures and documents were utilized (Appendix A). Test methods were performed following EPA monitored quality assurance/quality control procedures assuring results of laboratory analyses.

3.1 EPA Test Method 601

EPA Method 601 is a purge and trap gas chromatographic method applicable to the determination of purgeable halocarbons from water samples as prescribed by 40 CFR 136.1. An inert gas is bubbled through a 5-ml water sample contained in a specifically-designed purging chamber and maintained at ambient temperature from the aqueous phase to the water vapor phase. The vapor is swept through a sorbent trap where the halocarbons are trapped. After purging is completed, the trap is heated and backflushed with the inert gas to desorb the halocarbons which are then detected with a halide specific detector. Two field reagent blanks were prepared from reagent water and carried through the sampling and handling protocol to check for possible contamination. Standard operating procedures require that compound identification should be supported by at least one additional qualitative technique, such as EPA Method 624.

3.2 EPA Test Method 624

EPA method 624 is a purge and trap gas chromatographic/mass spectrometer (GC/MS) method applicable to the determination of purgeable organics from water samples, and is also prescribed by 40 CFR 136.1. An inert

gas is bubbled through a 5-ml sample contained in a specifically designed purging chamber at ambient temperature. The purgeables are efficiently transferred from the aqueous phase to the vapor phase. The vapor is swept through a sorbent column where the purgeables are trapped. After purging is completed, the sorbent column is heated and backflushed with the inert gas to desorb the purgeables into a gas chromatographic column. The gas chromatograph is temperature programmed to separate the purgeables which are then detected with a mass spectrometer. Two field reagent blanks were prepared from reagent water and carried through the sampling and handling protocol to check for possible contamination.

4.0 ANALYTICAL RESULTS

All analytical results are presented on the Laboratory Reports in Appendix B. Results of analyses for benzene, toluene, ethylbenzene, and total xylenes (BTEX) performed for this and the previous seven quarterly reports are summarized on Table 3. Results of analyses for purgeable halocarbons are summarized on Table 4. In water samples extracted from the ten (10) monitoring wells, benzene concentrations ranged from non-detected (less than 5 ug/L) to 9,500 ug/L, toluene concentrations ranged from non-detected (less than 5 ug/L) to 2,400 ug/L, ethylbenzene concentrations ranged from non-detected (less than 5 ug/L) to 2,100 ug/L, and concentrations of total xylenes ranged from non-detected (less than 5 ug/L) to 4,900 ug/L. BTEX concentrations did not exceed the method detection limits (5 ug/L) in sample blanks MW-001 and MW-002.

Concentrations of volatile organic compounds were highest in water samples collected from monitoring wells MW-502, MW-206, MW-503, MW-201, MW-103, and MW-101, respectively. Benzene concentrations in these samples were 9,500 ug/L, 5,800 ug/L, 600 ug/L, 1,000 ug/L, 970 ug/L and 620 ug/L, respectively. Toluene concentrations of the samples collected in MW-201, MW-206, MW-502, and MW-503 ranged from 140 ug/L to 2,400 ug/L; ethylbenzene concentrations ranged from none detected to 2,100 ug/L; and total xylene concentrations ranged from 250 ug/L to 4,900 ug/L.

The concentrations of other volatile organic compounds detected in water samples analyzed this quarter were relatively low with the exception of the acetone concentrations detected in samples from six (6) monitoring wells (Table 5). Significant acetone concentrations ranging from 870 ug/L to 2,500 ug/L were observed in MW-101, MW-103, MW-201, MW-206, and MW-503 long the west side of the

TABLE 3
SUMMARY OF ANALYTICAL TEST RESULTS -
VOLATILE ORGANIC COMPOUNDS
 (Values in ug/L)

<u>MW</u> <u>No.</u>	<u>Date</u>	<u>Benzene</u>	<u>Ethyl</u> <u>benzene</u>	<u>Toluene</u>	<u>Total</u> <u>Xylene</u>
101	June 88	620	ND<50	ND<50	100
	Mar. 88	340	ND<100	ND<100	ND<100
	Dec. 87	140	ND<5	ND<5	ND<5
	Sept. 87	340	37	ND<30	ND<30
	June. 87	43	1.6	0.5	2.6
	Jan/Feb 87	3	2.5	TR<1	TR<1
	Nov. 86	62	3.3	1.4	1.5
	July 86	58	TR<5	ND<1	ND<1
103	June 88	970	ND<50	74	ND<50
	Mar. 88	ND<5	ND<5	ND<5	ND<5
	Dec. 87	12	ND<5	ND<5	ND<5
	Sept. 87	120	ND<5	ND<5	ND<5
	June 87	69	1.3	1.1	3.5
	Jan/Feb 87	180	1.0	1.0	3.9
	Nov. 86	78	ND<1	2.2	5.7
	July 86	TR4	ND<1	ND<1	ND<1
104	June 88	ND<5	ND<5	ND<5	ND<5
	Mar. 88	110	23	68	17
	Dec. 87	ND<5	ND<5	ND<5	ND<5
	Sept. 87	ND<5	ND<5	ND<5	ND<5
	June 87	0.6	ND<0.5	0.5	1.5

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

MW No.	Date	Benzene	Ethyl benzene	Toluene	Total Xylene
104	(continued)				
	Jan/Feb. 87	ND<1	ND<1	ND<1	ND<1
	Nov. 86	ND<1	ND<1	ND<1	ND<1
	July 86	ND<1	ND<1	ND<1	ND<1
201	June 88	1000	ND<50	150	250
	Mar. 88	5600	260	880	1400
	Dec. 87	290	ND<5	6	142
	Sept. 87	120	9	12	12
	June 87	290	23	12	39
	Jan/Feb 87	70	5.0	4.0	15
	Nov. 86	68	10	10	32
	July 86	ND<1	ND<1	ND<1	ND<1
203	June 88	46	ND<5	ND<5	ND<5
	Mar. 88	103	ND<5	ND<5	ND<5
	Dec. 87	120	ND<5	ND<1	ND<1
	Sept. 87	92	ND<5	ND<5	ND<5
	June 87	1.0	1.6	0.7	2.9
	Jan/Feb 87	78	TR<1	1.0	3.4
	Nov. 86	88	TR<1	1.4	1.9
	July 86	50	ND<1	TR6	18

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

MW No.	Date	<u>Benzene</u>	<u>Ethyl benzene</u>	<u>Toluene</u>	<u>Total Xylene</u>
204	June 88	19	ND<5	ND<5	ND<5
	Mar. 88	120	ND<20	ND<20	ND<20
	Dec. 87	9	ND<5	ND<5	ND<5
	Sept. 87	18	ND<5	ND<5	ND<5
	June 87	45	2.8	0.7	3.4
	Jan/Feb 87	9.2	2.6	TR<1	2.3
	Nov. 86	260	15	6.7	41
	July 86	TR<9	ND<1	ND<1	ND<1
205	June 88	13	ND<5	ND<5	ND<5
	Mar. 88	74	ND<5	ND<5	8
	Dec. 87	ND<5	ND<5	ND<5	ND<5
	Sept. 87	ND<5	ND<5	ND<5	ND<5
	June 87	3.6	0.5	0.6	1.5
	Jan/Feb 87	4.3	TR<1	ND<1	1.2
	Nov. 86	7.5	ND<1	ND<1	1.5
	July 86	13	ND<1	ND<1	ND<1
206	June 88	5800	2100	2400	4900
	Mar. 88	6400	3400	3900	7300
	Dec. 87	7400	900	2300	5000
	Sept. 87	4100	1300	930	4000

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

MW No.	Date	Benzene	Ethyl benzene	Toluene	Total Xylene
206	(continued)				
	June 87	3700	1300	1300	3200
	Jan/Feb 87	4500	1100	1800	3600
	Nov. 86	6800	1800	2700	7100
	July 86	3800	TR82	1800	9000
501	June 88	*Free product present*			
	Mar. 88	4900	11000	9100	8200
	Dec. 87	8300	400	2000	1100
	Sept. 87	1400	170	ND<50	ND<50
	June 87	2200	210	40	78
	Jan/Feb 87	1500	160	TR<50	74
	Nov. 86	1500	210	67	140
	July 86	1400	290	51	470
502	June 88	950	62	79	16
	Mar. 88	3600	120	400	2700
	Dec. 87	13000	900	1200	4800
	Sept. 87	8400	1300	1700	5500
	June 87	13000	1400	2100	5600
	Jan/Feb 87	6300	960	1700	5200
	Nov. 86	6200	1500	4100	8500
	July 86	10000	1200	4100	6900

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

MW No.	Date	Benzene	Ethyl benzene	Toluene	Total Xylene
503	June 88	600	340	140	600
	Mar. 88	2700	1300	1300	2400
	Dec. 87	220	ND<10	44	660
	Sept. 87	53	280	76	390
	June 87	620	330	360	510
	Jan/Feb 87	TR<25	440	956	90
	Nov. 86	95	940	290	1600
	July 86	140	ND<1	ND<1	740
P-6	June 88	- Not operational			
	Mar. 88	- Not operational			
	Sept 87	ND<5	ND<5	ND<5	ND<5
001*	June 88	ND<5	ND<5	ND<5	ND<5
002*	June 88	ND<5	ND<5	ND<5	ND<5

KEY

MW = Monitoring Well

ND = This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

TR = Trace

* = Sample Blank

Data from July 1986 to September 1987 from IT Corporation Report (October, 1987).

TABLE 4
SUMMARY OF ANALYTICAL TEST RESULTS -
PURGEABLE HALOCARBON COMPOUNDS

<u>Monitoring Well Number</u>	<u>Concentration Compounds Detected</u>	<u>(ug/L)</u>
101*	None Detected	
103*	None Detected	
104	None Detected	
201*	None Detected	
203	trans-1,2-Dichloroethane	24
204	1,2-Dichloroethane	9
205	trans-1,2-Dichloroethane	2
	1,2-Dichloroethane	2
206*	None Detected	
502*	None Detected	
503*	None Detected	
001**	None Detected	
002**	None Detected	

KEY

* A higher than normal detection limit of 10 ug/L, 20 ug/L, or 50 ug/L was used due to matrix interference.

** Sample Blank

refinery and 200 ug/L in MW-203. Acetone concentrations decreased to non-detected levels (10 ug/L) in monitoring wells MW-104, MW-204, and MW-205 from the previous quarter (March, 1988). The production well P-6 was not available for sampling; therefore, any changes in acetone concentrations occurring during the quarterly sampling period could not be evaluated. A potential source area for the acetone in groundwater beneath the site appears to be from the west. The acetone source is not interpreted to occur onsite due to the observed increase in acetone concentration in the west onsite monitoring wells. There is currently no use or storage of acetone at the refinery, therefore there is no known source except offsite.

TABLE 5
SUMMARY OF ACETONE CONCENTRATIONS
EPA METHOD 624
(Values in ug/L)

MW-No.	Acetone Concentration June 1988	Acetone Concentration March 1988	Acetone Concentration December 1987
101	870	ND	ND
103	1,100	50	ND
104	ND	33	ND
201	1,700	ND	ND
203	200	71	ND
204	ND	400	ND
205	ND	190	240
206	2,500	ND	ND
502	ND	ND	1,700
503	1,700	503	ND
P-6	NA	NA	45

KEY

NA = Not Analyzed (Well could not be sampled.)

ND = Not Detected. Method detection limit is 10 ug/L.

5.0 CONCLUSIONS

The monitoring and analytical results derived in the second quarter of 1988 reveal several deviations from previous quarters (Tables 3, 4, and 5). Analysis of the most recent results compared with the results from the previous quarter (April, 1988) indicate the following:

- o Detection of 1.3 feet of free product in monitoring well MW-501.
- o Thickness of free product in monitoring well MW-504 is unchanged at 1.8 feet.
- o Benzene concentrations decreased in MW-104, MW-201, MW-203, MW-204, MW-205, MW-206, MW-502, and MW-503; and increased in MW-101 and MW-103.
- o Toluene concentrations remained not detected in MW-101, MW-203, MW-204, and MW-205; decreased in MW-104, MW-201, MW-206, MW-502 and MW-503; and increased in MW-103.
- o Ethylbenzene concentrations were not detected in MW-101, MW-103, MW-104, MW-201, MW-203, MW-204, and MW-205; decreased in MW-206, MW-502, and MW-503.
- o Total xylene concentrations were nearly unchanged in MW-103, MW-203, and MW-204; decreased in MW-201, MW-205, MW-206, MW-502, and MW-503; and increased in MW-101.
- o Acetone concentrations decreased in MW-104, MW-204, MW-205 and MW-502, but increased significantly in MW-101, MW-103, MW-201, MW-203, MW-206, and MW-503.
- o In general, analytical results of water samples from monitoring wells MW-104, MW-201, MW-203, MW-204, MW-205, and MW-206 remain consistent with the results from previous quarters.
- o Analytical results of water samples from monitoring wells MW-502 and MW-503 exhibited a slight decrease in overall BTEX levels.
- o Analytical results of water samples from monitoring wells MW-101 and MW-103 exhibited a slight increase in overall BTEX levels.

Respectfully submitted,

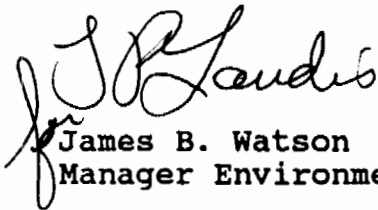
ERT, INC.



Mark R. Wood
Project, Hydrogeologist



Daniel C. Oliver
Project Manager



James B. Watson
Manager Environmental Programs

6.0 REFERENCES

Bellar, T.A., and Lichtenberg, J. J. 1974. Journal American Water Works Association. Volume 66.

Bellar, T.A. and Lichtenberg, J. J. 1978. "Semi-Automated Headspace Analysis of Drinking Waters and Industrial Waters for Purgeable Volatile Organic Compounds", Proceedings from Symposium on Measurement of Organic Pollutants in Water and Wastewater, American Society for Testing and Materials, STP 686, C.E. Van Hall, editor.

Gibb, J. P., Schuller, R. M. and Griffin, R. A. 1981. Procedures for the Collection of Representative Water Quality Data from Monitoring Wells. Cooperative Groundwater Report 7, Illinois State Water Survey and Illinois State Geologic Survey, Champaign, Illinois.

IT Corporation. October, 1987. Quarterly Progress Report, Powerine Refinery, Santa Fe Springs, California.

Unwin, Jay. 1986. Investigation for Purging Groundwater Monitoring Wells and Sampling Groundwater for Volatile Organic Compounds. Presented at the ASTM Symposium on Field Methods for Groundwater Contamination Studies and Their Standardization, Cocoa Beach, Florida, February 2-7, 1986.

United States Environmental Protection Agency. 1986. RCRA Ground-Water Monitoring Technical Enforcement Guidance Document. OSWER-9950.1, Washington, D.C.

United States Geological Survey. 1980. National Handbook of Recommended Methods for Water-Data Acquisition, Chapter 2, "Groundwater," Reston, Virginia.

APPENDIX A
CHAIN-OF-CUSTODY DOCUMENTS

CHAIN OF CUSTODY RECORD

Client/Project Name <i>Quarterly Sampling</i>			Project Location <i>Santa Fe Springs, CA</i>			ANALYSES		
Project No. <i>5500-002-210</i>			Field Logbook No.					
Sampler: (Signature) <i>Mark R. Wood</i>			Chain of Custody Tape No.					

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	EPA 601	EPA 624	REMARKS
<i>MW-101</i>	<i>6/6/88</i>	<i>2:05 PM</i>		<i>water</i>	<i>X</i>	<i>X</i>	
<i>MW-103</i>	<i>I</i>	<i>4:00 PM</i>		<i>I</i>	<i>I</i>	<i>I</i>	<i>ignore 6.25 markings on bottle</i>
<i>MW-001</i>	<i>I</i>	<i>4:15 PM</i>		<i>I</i>	<i>I</i>	<i>I</i>	
<i>MW-205</i>	<i>6/7/88</i>	<i>11:15</i>			<i>I</i>	<i>I</i>	
<i>MW-204</i>	<i>I</i>	<i>12:30</i>			<i>I</i>	<i>I</i>	
<i>MW-204</i>	<i>I</i>	<i>14:45</i>			<i>I</i>	<i>I</i>	
<i>MW-203</i>	<i>I</i>	<i>15:55</i>			<i>I</i>	<i>I</i>	
<i>MW-201</i>	<i>I</i>	<i>16:55</i>		<i>I</i>	<i>X</i>	<i>X</i>	

Relinquished by: (Signature) <i>Mark Wood</i>		Date <i>6/7/88</i>	Time <i>18:55</i>	Received by: (Signature)		Date	Time
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time
Relinquished by: (Signature)		Date	Time	Received for Laboratory: (Signature) <i>[Signature]</i>		Date <i>6/07/88</i>	Time <i>6:55 PM</i>

Sample Disposal Method:		Disposed of by: (Signature) <i>[Signature]</i>		Date	Time
-------------------------	--	---	--	------	------

SAMPLE COLLECTOR <i>M. Wood</i> ERT, Inc <i>19782 MacArthur Blvd. Suite 305</i> <i>Irvine CA 92715</i>	ANALYTICAL LABORATORY <i>CRL # E1026876 MLK</i> Environmental Research and Technology, Inc. 33 Industrial Way Wilmington, MA 01887 617-657-4290
---	---

ERT
No 21316

CHAIN OF CUSTODY RECORD

Client/Project Name QUARTERLY SAMPLING			Project Location SANTA FE SPRINGS, CA			ANALYSES EPA 601 EPA 624					
Project No. 5500-002-210			Field Logbook No.								
Sampler: (Signature) <i>Mark L. Wood</i>			Chain of Custody Tape No.								
Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	REMARKS						
MW-503	6/7/88	17:55		WATER	X	X					
Relinquished by: (Signature) <i>Mark Wood</i>				Date 6/7/88	Time 18:57	Received by: (Signature)				Date	Time
Relinquished by: (Signature)				Date	Time	Received by: (Signature)				Date	Time
Relinquished by: (Signature)				Date	Time	Received for Laboratory: (Signature) <i>[Signature]</i>				Date 6/07/88	Time 6:55 PM
Sample Disposal Method:				Disposed of by: (Signature)						Date	Time
SAMPLE COLLECTOR M. WOOD ERT, INC. 1982 MACARTHUR BLVD, SUITE 365 IRVINE, CA 92715				ANALYTICAL LABORATORY CRL # E1026876 MLK Environmental Research and Technology, Inc. 33 Industrial Way Wilmington, MA 01887 617-657-4290						ERT	
										Nº 21317	

CHAIN OF CUSTODY RECORD

Client/Project Name QUARTERLY SAMPLING			Project Location SANTAFE SPRINGS, CA			ANALYSES						
Project No. SS00-002-210			Field Logbook No.									
Sampler: (Signature) <i>Mark R. Wood</i>			Chain of Custody Tape No.			EPA 601 EPA 624						
Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample								REMARKS
MW-502	6/8/88	9:55		WATER		X	X					
MW-206	6/8/88	11:05		WATER		X	X					
MW-001	6/8/88	11:15		WATER		X	X					
Relinquished by: (Signature) <i>Mark R. Wood</i>				Date 6/8/88	Time 11:10	Received by: (Signature)				Date	Time	
Relinquished by: (Signature)				Date	Time	Received by: (Signature)				Date	Time	
Relinquished by: (Signature)				Date	Time	Received for Laboratory: (Signature) <i>Don Binkley</i>				Date 6/10/88	Time 4:10pm	
Sample Disposal Method:				Disposed of by: (Signature)						Date	Time	
SAMPLE COLLECTOR MARK WOOD Environmental Research and Technology, Inc. 19782 MacArthur Blvd. Suite 365 Irvine, California 92715 714-476-0321				ANALYTICAL LABORATORY CRL # E1026876 MLK MW-001 - SHOULD BE MW-002 per taken w/ Mark Wood 4:55pm 6/10/88						ERT No 8832		

APPENDIX B
LABORATORY REPORTS



Chemical Research Laboratories, Inc.

SOUTHERN CALIFORNIA DIVISION
7440 Lincoln Way • Garden Grove, CA 92641
(714)898-6370 • FAX: (714)891-5917 • (800)LAB-1CRL

RECEIVED

JUL 6 1988

ERT-IRVINE

June 30, 1988

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

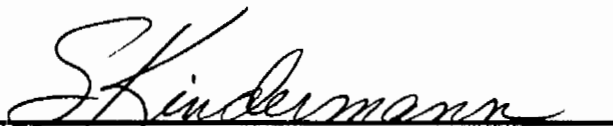
ANALYSIS NO.: 815931-001/009
ANALYSES: EPA Method 601/624
DATE SAMPLED: 06/06-07/88
DATE SAMPLE REC'D: 06/07/88
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 815931-001/009 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Verbals for EPA Method 624 were given on June 8, 1988.

Please note that ND() means not detected at the detection limit expressed within the parentheses.


REVIEWED


APPROVED

The Report Cover Letter is an integral part of this report.

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JUL 7 1988
ERT-IRVINE

June 30, 1988

E.R.T, INC.
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Mr. Mark Wood

ANALYSIS NO.: 816011-001/003
ANALYSES: EPA Methods 601, 624
DATE SAMPLED: 06/08/88
DATE SAMPLE REC'D: 06/08/88
PROJECT: 5500-002-210 Quarterly Sampling
Santa Fe Springs, CA

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 816011-001/003 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND() means not detected at the detection limit expressed within the parentheses.

REVIEWED

APPROVED

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-001
ANALYSES: EPA Method 601
DATE SAMPLED: 06/06/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/09-10/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-101

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(10.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
1,1-Dichloroethene	ND(10.)	Cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethane	ND(10.)	2-Chloroethylvinylether	ND(10.)
Trans-1,2-Dichloroethene	ND(10.)	Bromoform	ND(10.)
Chloroform	ND(10.)	Tetrachloroethene	ND(10.)
1,2-Dichloroethane	ND(10.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Chlorobenzene	ND(10.)
Carbon Tetrachloride	ND(10.)	Bromodichloromethane	ND(10.)
1,2-Dichlorobenzene	ND(10.)	1,3-Dichlorobenzene	ND(10.)
Trichlorofluoromethane	ND(10.)	1,4-Dichlorobenzene	ND(10.)

NOTE: Higher detection limits is due to matrix interference.

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

SAMPLE ID.: MW-101

ANALYSIS NO.: 815931-001
ANALYSES: EPA Method 624
DATE SAMPLED: 06/06/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/14/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(100.)	1,2-Dichloropropane	ND(50.)
Bromomethane	ND(100.)	Trans-1,3-Dichloropropene	ND(50.)
Vinyl Chloride	ND(100.)	Trichloroethene	ND(50.)
Chloroethane	ND(100.)	Dibromochloromethane	ND(50.)
Methylene Chloride	ND(50.)	1,1,2-Trichloroethane	ND(50.)
Acetone	870.	Benzene	620.
Carbon Disulfide	ND(50.)	cis-1,3-Dichloropropene	ND(50.)
1,1-Dichloroethene	ND(50.)	2-Chloroethylvinyl ether	ND(100.)
1,1-Dichloroethane	ND(50.)	Bromoform	ND(50.)
Trans-1,2-Dichloroethene	ND(50.)	4-Methyl-2-Pentanone	ND(100.)
Chloroform	ND(50.)	2-Hexanone	ND(100.)
1,2-Dichloroethane	ND(50.)	Tetrachloroethene	ND(50.)
2-Butanone	ND(100.)	1,1,2,2-Tetrachloroethane	ND(50.)
1,1,1-Trichloroethane	ND(50.)	Toluene	ND(50.)
Carbon Tetrachloride	ND(50.)	Chlorobenzene	ND(50.)
Vinyl Acetate	ND(100.)	Ethylbenzene	ND(50.)
Bromodichloromethane	ND(50.)	Styrene	ND(50.)
		Total Xylenes	100.

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

SAMPLE ID.: MW-103

ANALYSIS NO.: 815931-002
ANALYSES: EPA Method 601
DATE SAMPLED: 06/06/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/09-10/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(10.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
1,1-Dichloroethene	ND(10.)	Cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethane	ND(10.)	2-Chloroethylvinylether	ND(10.)
Trans-1,2-Dichloroethene	ND(10.)	Bromoform	ND(10.)
Chloroform	ND(10.)	Tetrachloroethene	ND(10.)
1,2-Dichloroethane	ND(10.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Chlorobenzene	ND(10.)
Carbon Tetrachloride	ND(10.)	Bromodichloromethane	ND(10.)
1,2-Dichlorobenzene	ND(10.)	1,3-Dichlorobenzene	ND(10.)
Trichlorofluoromethane	ND(10.)	1,4-Dichlorobenzene	ND(10.)

NOTE: Higher detection limits is due to matrix interference.

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-002
ANALYSES: EPA Method 624
DATE SAMPLED: 06/06/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/14/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-103

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(100.)	1,2-Dichloropropane	ND(50.)
Bromomethane	ND(100.)	Trans-1,3-Dichloropropene	ND(50.)
Vinyl Chloride	ND(100.)	Trichloroethene	ND(50.)
Chloroethane	ND(100.)	Dibromochloromethane	ND(50.)
Methylene Chloride	ND(50.)	1,1,2-Trichloroethane	ND(50.)
Acetone	1,100.	Benzene	970.
Carbon Disulfide	ND(50.)	cis-1,3-Dichloropropene	ND(50.)
1,1-Dichloroethene	ND(50.)	2-Chloroethylvinyl ether	ND(100.)
1,1-Dichloroethane	ND(50.)	Bromoform	ND(50.)
Trans-1,2-Dichloroethene	ND(50.)	4-Methyl-2-Pentanone	ND(100.)
Chloroform	ND(50.)	2-Hexanone	ND(100.)
1,2-Dichloroethane	ND(50.)	Tetrachloroethene	ND(50.)
2-Butanone	ND(100.)	1,1,2,2-Tetrachloroethane	ND(50.)
1,1,1-Trichloroethane	ND(50.)	Toluene	74.
Carbon Tetrachloride	ND(50.)	Chlorobenzene	ND(50.)
Vinyl Acetate	ND(100.)	Ethylbenzene	ND(50.)
Bromodichloromethane	ND(50.)	Styrene	ND(50.)
		Total Xylenes	ND(50.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-005
ANALYSES: EPA Method 601
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/09-10/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-104

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT

19782 MacArthur Blvd., Ste. 365

Irvine, CA 92715

ATTN: Mark Wood

SAMPLE ID.: MW-104

ANALYSIS NO.: 815931-005

ANALYSES: EPA Method 624

DATE SAMPLED: 06/07/88

DATE SAMPLE REC'D: 06/07/88

DATE ANALYZED: 06/14/88

SAMPLE TYPE: Liquid

PROJECT: 5500-002-210

Quarterly Sampling

Santa Fe Springs

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-008
ANALYSES: EPA Method 601
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/09-10/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-201

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(10.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
1,1-Dichloroethene	ND(10.)	Cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethane	ND(10.)	2-Chloroethylvinylether	ND(10.)
Trans-1,2-Dichloroethene	ND(10.)	Bromoform	ND(10.)
Chloroform	ND(10.)	Tetrachloroethene	ND(10.)
1,2-Dichloroethane	ND(10.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Chlorobenzene	ND(10.)
Carbon Tetrachloride	ND(10.)	Bromodichloromethane	ND(10.)
1,2-Dichlorobenzene	ND(10.)	1,3-Dichlorobenzene	ND(10.)
Trichlorofluoromethane	ND(10.)	1,4-Dichlorobenzene	ND(10.)

NOTE: Higher detection limits is due to matrix interference.

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(714)898-6370 • FAX: (714)891-5917 • (800)LAB-1CRL

LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

SAMPLE ID.: MW-201

ANALYSIS NO.: 815931-008
ANALYSES: EPA Method 624
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/15/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(100.)	1,2-Dichloropropane	ND(50.)
Bromomethane	ND(100.)	Trans-1,3-Dichloropropene	ND(50.)
Vinyl Chloride	ND(100.)	Trichloroethene	ND(50.)
Chloroethane	ND(100.)	Dibromochloromethane	ND(50.)
Methylene Chloride	ND(50.)	1,1,2-Trichloroethane	ND(50.)
Acetone	1,700.	Benzene	1,000.
Carbon Disulfide	ND(50.)	cis-1,3-Dichloropropene	ND(50.)
1,1-Dichloroethene	ND(50.)	2-Chloroethylvinyl ether	ND(100.)
1,1-Dichloroethane	ND(50.)	Bromoform	ND(50.)
Trans-1,2-Dichloroethene	ND(50.)	4-Methyl-2-Pentanone	ND(100.)
Chloroform	ND(50.)	2-Hexanone	ND(100.)
1,2-Dichloroethane	ND(50.)	Tetrachloroethene	ND(50.)
2-Butanone	ND(100.)	1,1,2,2-Tetrachloroethane	ND(50.)
1,1,1-Trichloroethane	ND(50.)	Toluene	. 150.
Carbon Tetrachloride	ND(50.)	Chlorobenzene	ND(50.)
Vinyl Acetate	ND(100.)	Ethylbenzene	ND(50.)
Bromodichloromethane	ND(50.)	Styrene	ND(50.)
		Total Xylenes	250.

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-007
ANALYSES: EPA Method 601
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/09-10/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-203

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	24.	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-007
ANALYSES: EPA Method 624
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/15/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-203

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	200.	Benzene	46.
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	17.	4-Methyl-2-Pentanone	120.
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-006
ANALYSES: EPA Method 601
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/09-10/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-204

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	9.	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-006
ANALYSES: EPA Method 624
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/15/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-204

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	19.
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	20.
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	15.	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-004
ANALYSES: EPA Method 601
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/09-10/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-205

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	2.	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	2.	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

SAMPLE ID.: MW-205

ANALYSIS NO.: 815931-004
ANALYSES: EPA Method 624
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/16/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	13.
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

E.R.T, INC.
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Mr. Mark Wood

SAMPLE ID: MW - 206

ANALYSIS NO.: 816011-002

ANALYSES: EPA Method 601

DATE SAMPLED: 06/08/88

DATE SAMPLE REC'D: 06/08/88

DATE ANALYZED: 06/09/88

SAMPLE TYPE: Liquid

PROJECT: 5500-002-210 Quarterly Sampling
Santa Fe Springs, CA

EPA METHODS 601/8010 HALOGENATED ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(50.)	1,2-Dichloropropane	ND(50.)
Bromomethane	ND(50.)	Trans-1,3-Dichloropropene	ND(50.)
Vinyl Chloride	ND(50.)	Trichloroethene	ND(50.)
Chloroethane	ND(50.)	Dibromochloromethane	ND(50.)
Methylene Chloride	ND(50.)	1,1,2-Trichloroethane	ND(50.)
1,1-Dichloroethene	ND(50.)	Cis-1,3-Dichloropropene	ND(50.)
1,1-Dichloroethane	ND(50.)	2-Chloroethylvinylether	ND(50.)
Trans-1,2-Dichloroethene	ND(50.)	Bromoform	ND(50.)
Chloroform	ND(50.)	Tetrachloroethene	ND(50.)
1,2-Dichloroethane	ND(50.)	1,1,2,2-Tetrachloroethane	ND(50.)
1,1,1-Trichloroethane	ND(50.)	Chlorobenzene	ND(50.)
Carbon Tetrachloride	ND(50.)	Bromodichloromethane	ND(50.)
1,2-Dichlorobenzene	ND(50.)	1,3-Dichlorobenzene	ND(50.)
Trichlorofluoromethane	ND(50.)	1,4-Dichlorobenzene	ND(50.)

NOTE: Higher detection limit is due to matrix interference.

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SOUTHERN CALIFORNIA DIVISION

7440 Lincoln Way • Garden Grove, CA 92641

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LABORATORY REPORT

E.R.T., INC.

19782 MacArthur Blvd., Suite 365

Irvine, CA 92715

ATTN: Mr. Mark Wood

SAMPLE ID: MW - 206

ANALYSIS NO.: 816011-002

ANALYSES: EPA Method 624

DATE SAMPLED: 06/08/88

DATE SAMPLE REC'D: 06/08/88

DATE ANALYZED: 06/20/88

SAMPLE TYPE: Liquid

PROJECT: 5500-002-210 Quarterly Sampling
Santa Fe Springs, CA

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(500.)	1,2-Dichloropropane	ND(200.)
Bromomethane	ND(500.)	Trans-1,3-Dichloropropene	ND(200.)
Vinyl Chloride	ND(500.)	Trichloroethene	ND(200.)
Chloroethane	ND(500.)	Dibromochloromethane	ND(200.)
Methylene Chloride	ND(200.)	1,1,2-Trichloroethane	ND(200.)
Acetone	2,500.	Benzene	5,800.
Carbon Disulfide	ND(200.)	cis-1,3-Dichloropropene	ND(200.)
1,1-Dichloroethene	ND(200.)	2-Chloroethylvinyl ether	ND(500.)
1,1-Dichloroethane	ND(200.)	Bromoform	ND(200.)
Trans-1,2-Dichloroethene	ND(200.)	4-Methyl-2-Pentanone	ND(500.)
Chloroform	ND(200.)	2-Hexanone	ND(5,000.)
1,2-Dichloroethane	ND(200.)	Tetrachloroethene	ND(200.)
2-Butanone	ND(500.)	1,1,2,2-Tetrachloroethane	ND(200.)
1,1,1-Trichloroethane	ND(200.)	Toluene	2,400.
Carbon Tetrachloride	ND(200.)	Chlorobenzene	ND(200.)
Vinyl Acetate	ND(500.)	Ethylbenzene	2,100.
Bromodichloromethane	ND(200.)	Styrene	ND(200.)
		Total Xylenes	4,900.

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LABORATORY REPORT

E.R.T, INC.
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Mr. Mark Wood

SAMPLE ID: MW - 502

ANALYSIS NO.: 816011-001
ANALYSES: EPA Method 601
DATE SAMPLED: 06/08/88
DATE SAMPLE REC'D: 06/08/88
DATE ANALYZED: 06/09/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210 Quarterly Sampling
Santa Fe Springs, CA

EPA METHODS 601/8010 HALOGENATED ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(50.)	1,2-Dichloropropane	ND(50.)
Bromomethane	ND(50.)	Trans-1,3-Dichloropropene	ND(50.)
Vinyl Chloride	ND(50.)	Trichloroethene	ND(50.)
Chloroethane	ND(50.)	Dibromochloromethane	ND(50.)
Methylene Chloride	ND(50.)	1,1,2-Trichloroethane	ND(50.)
1,1-Dichloroethene	ND(50.)	Cis-1,3-Dichloropropene	ND(50.)
1,1-Dichloroethane	ND(50.)	2-Chloroethylvinylether	ND(50.)
Trans-1,2-Dichloroethene	ND(50.)	Bromoform	ND(50.)
Chloroform	ND(50.)	Tetrachloroethene	ND(50.)
1,2-Dichloroethane	ND(50.)	1,1,2,2-Tetrachloroethane	ND(50.)
1,1,1-Trichloroethane	ND(50.)	Chlorobenzene	ND(50.)
Carbon Tetrachloride	ND(50.)	Bromodichloromethane	ND(50.)
1,2-Dichlorobenzene	ND(50.)	1,3-Dichlorobenzene	ND(50.)
Trichlorofluoromethane	ND(50.)	1,4-Dichlorobenzene	ND(50.)

NOTE: Higher detection limit is due to matrix interference.

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LABORATORY REPORT

E.R.T, INC.

19782 MacArthur Blvd., Suite 365

Irvine, CA 92715

ATTN: Mr. Mark Wood

SAMPLE ID: MW - 502

ANALYSIS NO.: 816011-001

ANALYSES: EPA Method 624

DATE SAMPLED: 06/08/88

DATE SAMPLE REC'D: 06/08/88

DATE ANALYZED: 06/17/88

SAMPLE TYPE: Liquid

PROJECT: 5500-002-210 Quarterly Sampling
Santa Fe Springs, CA

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	950.
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	79.
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	62.
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	16.

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-009
ANALYSES: EPA Method 601
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/09-10/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-503

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(10.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
1,1-Dichloroethene	ND(10.)	Cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethane	ND(10.)	2-Chloroethylvinylether	ND(10.)
Trans-1,2-Dichloroethene	ND(10.)	Bromoform	ND(10.)
Chloroform	ND(10.)	Tetrachloroethene	ND(10.)
1,2-Dichloroethane	ND(10.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Chlorobenzene	ND(10.)
Carbon Tetrachloride	ND(10.)	Bromodichloromethane	ND(10.)
1,2-Dichlorobenzene	ND(10.)	1,3-Dichlorobenzene	ND(10.)
Trichlorofluoromethane	ND(10.)	1,4-Dichlorobenzene	ND(10.)

NOTE: Higher detection limits is due to matrix interference.

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-009
ANALYSES: EPA Method 624
DATE SAMPLED: 06/07/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/16/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-503

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(100.)	1,2-Dichloropropane	ND(50.)
Bromomethane	ND(100.)	Trans-1,3-Dichloropropene	ND(50.)
Vinyl Chloride	ND(100.)	Trichloroethene	ND(50.)
Chloroethane	ND(100.)	Dibromochloromethane	ND(50.)
Methylene Chloride	ND(50.)	1,1,2-Trichloroethane	ND(50.)
Acetone	1,700.	Benzene	600.
Carbon Disulfide	ND(50.)	cis-1,3-Dichloropropene	ND(50.)
1,1-Dichloroethene	ND(50.)	2-Chloroethylvinyl ether	ND(50.)
1,1-Dichloroethane	ND(50.)	Bromoform	ND(50.)
Trans-1,2-Dichloroethene	ND(50.)	4-Methyl-2-Pentanone	ND(100.)
Chloroform	ND(50.)	2-Hexanone	ND(100.)
1,2-Dichloroethane	ND(50.)	Tetrachloroethene	ND(50.)
2-Butanone	ND(100.)	1,1,2,2-Tetrachloroethane	ND(50.)
1,1,1-Trichloroethane	ND(50.)	Toluene	140.
Carbon Tetrachloride	ND(50.)	Chlorobenzene	ND(50.)
Vinyl Acetate	ND(100.)	Ethylbenzene	340.
Bromodichloromethane	ND(50.)	Styrene	ND(50.)
		Total Xylenes	600.

The Report Cover Letter is an integral part of this report.

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Chemical Research Laboratories, Inc.

SOUTHERN CALIFORNIA DIVISION

7440 Lincoln Way • Garden Grove, CA 92641
(714)898-6370 • FAX: (714)891-5917 • (800)LAB-1CRL

LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

ANALYSIS NO.: 815931-003
ANALYSES: EPA Method 601
DATE SAMPLED: 06/06/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/09/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

SAMPLE ID.: MW-001

EPA METHODS 601/8010 HALOGENATED VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mark Wood

SAMPLE ID.: MW-001

ANALYSIS NO.: 815931-003
ANALYSES: EPA Method 624
DATE SAMPLED: 06/06/88
DATE SAMPLE REC'D: 06/07/88
DATE ANALYZED: 06/16/88
SAMPLE TYPE: Liquid
PROJECT: 5500-002-210
Quarterly Sampling
Santa Fe Springs

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(20.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

E.R.T., INC.
19782 MacArthur Blvd., Suite 365
Irvine, CA 92715
ATTN: Mr. Mark Wood

SAMPLE ID: MW - 002

ANALYSIS NO.: 816011-003

ANALYSES: EPA Method 601

DATE SAMPLED: 06/08/88

DATE SAMPLE REC'D: 06/08/88

DATE ANALYZED: 06/09/88

SAMPLE TYPE: Liquid

PROJECT: 5500-002-210 Quarterly Sampling
Santa Fe Springs, CA

EPA METHODS 601/8010 HALOGENATED ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

E.R.T., INC.

19782 MacArthur Blvd., Suite 365

Irvine, CA 92715

ATTN: Mr. Mark Wood

SAMPLE ID: MW - 002

ANALYSIS NO.: 816011-003

ANALYSES: EPA Method 624

DATE SAMPLED: 06/08/88

DATE SAMPLE REC'D: 06/08/88

DATE ANALYZED: 06/17/88

SAMPLE TYPE: Liquid

PROJECT: 5500-002-210 Quarterly Sampling
Santa Fe Springs, CAEPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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